

APR 18 2008

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**Attention: Mr. Philip H. Leung**

**Department: Examiner**

**Company Name: USPTO**

**Date: April 18, 2008**

**Facsimile Equipment Phone Number: 1-571-273-8300**

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**Docket No.: 175.8156USU**

**From: OLGA M. PINSKY**

**MESSAGE:**

**USSN: 10/520,722**

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APR 18 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Stephan et al.

Serial No.: 10/520,722

For: **Densification of Ceramic Substances by Means of Electromagnetic Centimetre Waves and Receptacle for Carrying out the Inventive Method**

Filed: December 1, 2005

Examiner: Philip H. Leung

Art Unit: 3742

Confirmation No.: 9734

Customer No.: 27,623 Attorney Docket No.: 175.8156USU

**Mail Stop Amendment**  
**COMMISSIONER FOR PATENTS**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

Dear Sir:

RESPONSE TO RESTRICTION REQUIREMENT TRANSMITTAL

We are enclosing a Response in response to the communication dated March 18, 2008 in the above-identified application.

Petition for extension of time pursuant to 37 C.F.R. §§ 1.136 and 1.137 is hereby made if, and to the extent, required. The fee for this extension of time is calculated to be \$ \_\_\_\_\_ to extend the time for filing this response until \_\_\_\_\_.

The fee for any change in number of claims has been calculated as shown below.

CLAIMS AS AMENDED						
	Claims Remaining After Amendment		Highest Number Previously Paid	Present Extra	Rate	
Total Claims	21	Minus	21	0	x \$50.00	\$
Independent Claims	2	Minus	3	0	x \$210.00	\$
MULTIPLE DEPENDENT CLAIM FEE					x \$370.00 = \$	
TOTAL FEE FOR CLAIM CHANGES					SPAID	
1/2 FILING FEE FOR SMALL ENTITY					S/N/A	

The total fee for this amendment, including claim changes and any extension of time is calculated to be \$ 0.00.

       A check in the amount of \$ 0.00 is attached.

The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§1.16 and 1.17 which may be required with this communication or during the entire pendency of the application, or credit any overpayment, to **Deposit Account No. 01-0467**. A duplicate copy of this Form is enclosed.

April 18, 2008

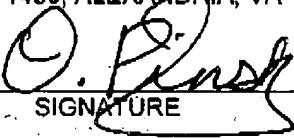
Date

  
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Attorney for Applicant(s)  
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One Landmark Square, 10<sup>th</sup> Floor  
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**CERTIFICATE OF TRANSMISSION**

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING FACSIMILE TRANSMITTED TO THE FACSIMILE NUMBER 571-273-8300, 10 total pages, c/o MAIL STOP AMENDMENT, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON April 18, 2008.

Olga Pinsky  
NAME

  
SIGNATURE

4/18/08  
DATE

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MULTIPLE DEPENDENT CLAIM FEE						x \$370.00 = \$
TOTAL FEE FOR CLAIM CHANGES						\$PAID
1/2 FILING FEE FOR SMALL ENTITY						\$N/A

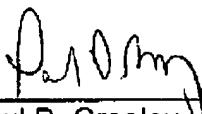
The total fee for this amendment, including claim changes and any extension of time is calculated to be \$ 0.00.

       A check in the amount of \$ 0.00 is attached.

X The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§1.16 and 1.17 which may be required with this communication or during the entire pendency of the application, or credit any overpayment, to **Deposit Account No. 01-0467**. A duplicate copy of this Form is enclosed.

April 18, 2008

Date

  
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Attorney for Applicant(s)  
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DATE

APR 18 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Stephan et al.

Serial No.: 10/520,722

For: DENSIFICATION OF CERAMIC SUBSTANCES BY MEANS  
OF ELECTROMAGNETIC CENTIMETRE WAVES, AND  
RECEPTACLE FOR CARRYING OUT THE INVENTIVE  
METHOD

Filed: December 1, 2005

Examiner: Philip H. Leung

Art Unit: 3742

Confirmation No.: 9734

Customer No.: 27,623

Attorney Docket No.: 175.8156USU

**Mail Stop Amendment**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO RESTRICTION REQUIREMENT**

Dear Sir:

In response to the Office Action dated March 18, 2008, please amend the above-identified application as follows:

**Listing of the Claims** begins on page 2 of this paper.

**Remarks** begin on page 5 of this paper.

APR 18 2008

Serial No. 10/520,722  
Art Unit 3742**LISTING OF THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) Method for manufacturing ceramic parts with a certain porosity by sintering using microwaves, the materials to be sintered being arranged in a vessel, said method comprising:

introducing, via said microwaves, sintering energy into the materials to be sintered via electromagnetic waves in the range of vacuum wavelengths between 5 cm – 20 cm in multimode having an electromagnetic power of up to one kilowatt, wherein, besides being built from primary materials for the structure of the vessel, the vessel is built from a secondary material which comprises at least one material selected from the group consisting of: non-metallic materials, para-magnetic materials, ferro-magnetic materials and antiferromagnetic materials.

2. (Previously presented) Method of claim 1, wherein said wavelength range of the electromagnetic waves is between 11-13 cm.

3. (Previously presented) Method of claim 1, wherein said ceramic parts have a porosity of between 0-50 percent by volume.

4. (Previously presented) Method of claim 3, wherein said porosity is between 10 – 30 % by volume, the porosity being controllable through the temperature pattern.

5. (Previously presented) Method of claim 1, wherein said ceramic parts are infiltrated with a glass material to produce the final strength.

6. (Previously presented) Method of claim 1, wherein said ceramic parts are sintered to a defined final density of at least 80% of the theoretical density of the respective material.

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Art Unit 3742

7. (Previously presented) Method of claim 1, wherein said ceramic parts are dental restorations.

8. (Previously presented) Method of claim 7, wherein said dental restorations are veneered using a glass material.

9. (Previously presented) Method of claim 1, wherein said material is selected from the group consisting of:  $\text{Al}_2\text{O}_3$ , Spinell, Ce- or Y-stabilized  $\text{ZrO}_2$ , and mixtures thereof.

10. (Previously presented) Method of manufacturing full ceramic dental restorations from dental ceramic masses with a certain porosity by sintering using microwaves, said ceramic masses that are to be sintered being arranged in a vessel, said method comprising:

introducing, via said microwaves, sintering energy into said ceramic masses to be sintered via electromagnetic waves in the range of vacuum wavelengths between 5 cm – 20 cm in multimode having an electromagnetic power of up to one kilowatt, wherein, besides being built from primary materials for the structure of the vessel, the vessel is built from a secondary material which comprises at least one material selected from the group consisting of: non-metallic materials, para-magnetic materials, ferro-magnetic materials and antiferromagnetic materials.

11. (Currently amended) Vessel for manufacturing ceramic parts with a certain porosity by sintering using microwaves by the method of claim 1, said vessel comprising a primary and a secondary material, wherein said secondary material comprises at least one material selected from the group consisting of: a non-metallic material, a para-magnetic material, a ferro-magnetic material and an antiferromagnetic material.

12. (Previously presented) Vessel of claim 11, wherein said secondary material is zincochromite ( $\text{ZnCr}_2\text{O}_4$ ) with 0-99 percent by weight of zincite (zinc oxide  $\text{ZnO}$ ).

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Art Unit 3742

13. (Previously presented) Vessel of claim 11, wherein, to increase the dense sintering temperature, the secondary material further comprises a refractory non-metallic material having a high transparency for super high frequency waves in a wide temperature range.

14. (Previously presented) Vessel of claim 13, wherein said refractory non-metallic secondary material having a high transparency for super high frequency waves is zinc oxide (ZnO).

15. (Previously presented) Vessel of claim 11, further comprising a receiving portion for receiving said primary and secondary material to be sintered, said secondary material being provided at least partly around the receiving portion.

16. (Previously presented) Vessel of claim 15, wherein said receiving portion is surrounded by at least one, secondary material element.

17. (Previously presented) Vessel of claim 11, wherein said secondary material is surrounded by said primary material.

18. (Previously presented) Vessel of claim 15, wherein said secondary material extends over the entire height of said receiving portion.

19. (Previously presented) Vessel of claim 16, wherein said secondary material element is rod-shaped.

20. (Previously presented) Vessel of claim 16, wherein said secondary material element is divided regularly around the receiving portion.

21. (Previously presented) Vessel of claim 16, wherein said secondary material element is encapsulated with said primary material.

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Art Unit 3742

REMARKS

Claims 1-21 were presented for examination in the present application and remain pending upon entry of the instant amendment.

The Office Action requires restriction between the method of Group I (claims 1-10) and the vessel of Group II (claims 11-21). Applicants elect the invention of Group I, which includes claims 1-10.

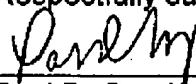
Further, claim 11 has been amended to clarity that the vessel for manufacturing ceramic parts with a certain porosity by sintering using microwaves by the method of claim 1. Accordingly, Applicants respectfully submit that claims 11-21, as amended, read on the method of elected Group I. Applicants respectfully request reconsideration and withdrawal of the Requirement for Restriction with regard to claims 11-21.

In view of the above, it is respectfully submitted that the present application is in condition for examination. Applicants respectfully request favorable consideration and passage of this application to allowance.

If for any reason the Examiner feels that consultation with Applicants' attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below.

Respectfully submitted,

April 18, 2008

  
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